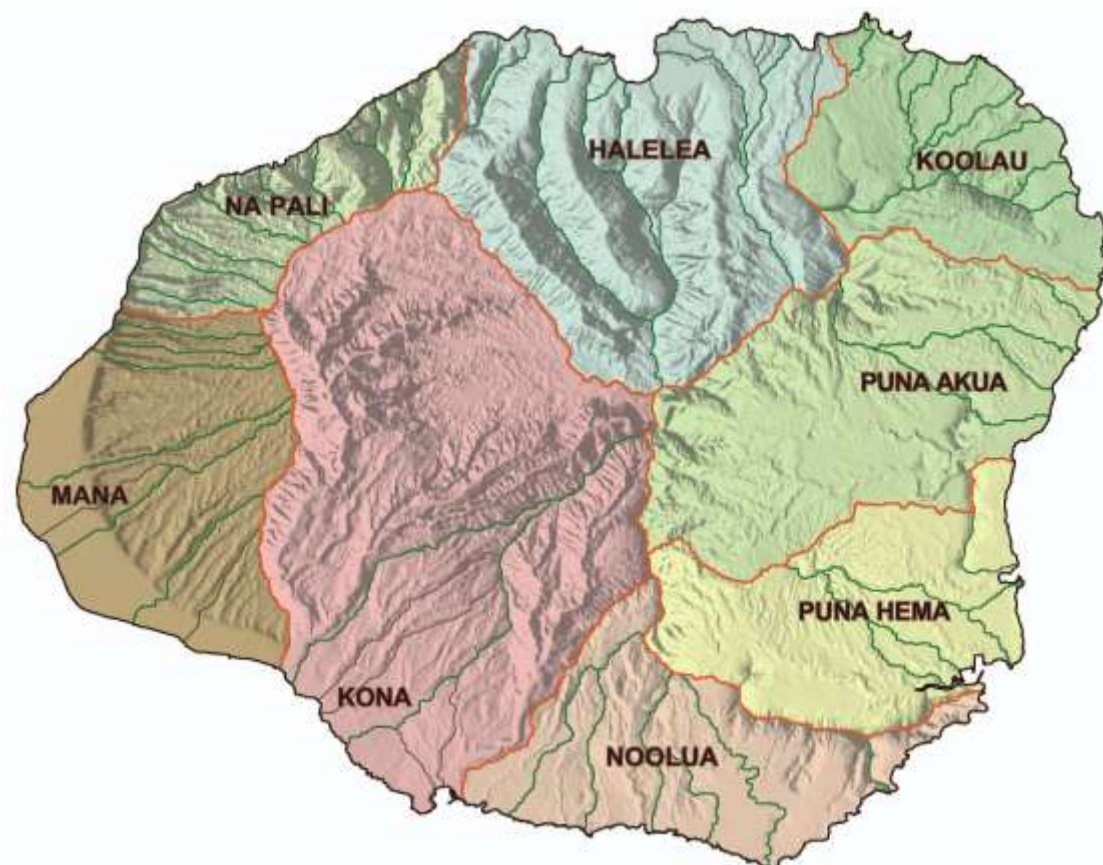


WATERSHEDS OUR WATER, © OUR HOME



2018 ANNUAL REPORT

East & West Kauai
Soil & Water Conservation Districts



Message from the Mayor

Mayor's Office + East & West Kaua'i Soil and Water Conservation Districts



Message from the Mayor

Aloha! It is my pleasure to recognize the members of the East and West Kaua'i Soil and Water Conservation Districts for their dedication and commitment to preserve and protect the natural resources of our island throughout the years! We have all benefitted from your efforts as stewards of our 'aina.

This year's watershed theme, once again challenges us all to develop good conservation habits that will last a lifetime and ultimately further sustainability on the Garden Isle. If we are to continue to thrive as an island community, we must take personal responsibility to ensure that our precious natural resources such as soil and water are conserved and protected. This year's watershed theme is a wonderful reminder of the work we must do in order to create and maintain healthy habits that will preserve our island's unique character.

On behalf of the people of Kaua'i and Ni'ihau, I extend a special mahalo for the tremendous work you have done over the years and the legacy you continue to build. I encourage everyone in our community to follow your example by doing their part to keep our island beautiful for generations to come.



Aloha Pumehana,

Bernard P. Carvalho Jr.
Mayor, County of Kaua'i
State of Hawai'i



It is our pleasure to extend our warmest aloha to our conservation partners, supporters, and friends and to report our activities and accomplishments for fiscal year 2018.

Over time, the role of the Districts has expanded beyond soil and water conservation to include the following activities:

- * Review and approve resource conservation plans for soil erosion control and water conservation on agricultural lands
- * Advise land users about the agricultural exemption to the Kaua'i County Sediment and Erosion Control Ordinance
- * Participate in EPA and State Department of Health non-point source pollution programs
- * Support initiatives that seek to protect and maintain irrigation systems
- * Promote natural resource protection and conservation outreach programs

Our Districts are locally led grassroots organizations, guided by unpaid volunteers who unselfishly contribute their time and effort. With support from conservation partners, we strive together to preserve natural resources and enhance the quality of life in our communities.

Please enjoy our annual report.

With warmest aloha,

Ed Kawamura, Jr., Chairperson
East Kaua'i Soil and Water Conservation District

Peter Tausend, Chairperson
West Kaua'i Soil and Water Conservation District

In this Issue

Message from the Mayor—2

A Message of Aloha—3

Who We Are and What We Do—4

Directors and Field Office Staff—5

Outstanding Cooperator 2017

+ East— Dylan Strong—6

+ West— Eddie Sindt—7

Outstanding Water Conservationist 2017

+ East— Bradley Smith & Amy Amnet-Smith—8

+ West— Sakda Meechol—9

Community Outreach

+ Watersheds: Our Water, Our Home—10-11

+ 2017-2018 Activities—12

+ Kaua'i Conservation Poster Contest—13-14

Department of Water

+ Make a Splash Festival & Project WET—15-16

Garden Island RC & D

+ Koke'e Resource Conservation Program—16-18

NRCS Report—18

Conservation Awareness Contest—19

HACD Conservation Specialist—20

Staff Update—21

Mahalo—21

Event Volunteers & Photos—22-23

Who we are and What we do

East & West Kaua'i SWCD

Conservation planning. Erosion control. Water quality. Watershed Planning. Community outreach.

Founded in 1953, the East and West Kaua'i Soil and Water Conservation Districts (Kaua'i SWCDs) are two of sixteen conservation districts in Hawaii and 3,000 districts in the nation.

The function of Conservation Districts is to use available technical, financial and educational resources to help local land users conserve soil, water and related resources. In addition to the traditional mission of soil and water conservation, Kaua'i SWCDs are involved in a wide variety of related activities, including erosion control plan reviews of agricultural lands, reviewing and approving conservation plans in partnership with the USDA Natural Resources Conservation Service (NRCS), supporting farmers and ranchers in their effort to obtain government funding for installing conservation practices, involvement in the County's Sediment & Erosion Control Ordinance, control of non-point source pollution, watershed planning, wildlife habitat preservation, and conservation education.

Hawai'i's Conservation Districts are self-governing sub-units of the State government, authorized by and operating under Chapter 180 of the Hawaii Revised Statutes. For administrative purposes, the Conservation Districts are placed under the Department of Land and Natural Resources (DLNR). Each Conservation District is governed by an unpaid board of five directors: three elected by agricultural land owners and two appointed by the Board of Land and Natural Resources. Directors are assisted by Associate Directors. With funding from the State of Hawaii and the County of Kaua'i, Kaua'i's SWCDs have paid staff consisting of two Conservation Specialists and a part-time District Assistant. Hawai'i's sixteen Conservation Districts have formed the Hawaii Association of Conservation Districts (HACD) to support and promote natural resource conservation statewide.

The NRCS is the Conservation Districts' prime conservation partner and technical resource agency. In addition to the NRCS, Conservation Districts work closely with and receive support from the DLNR, County of Kaua'i, Department of Water, State Legislature, County Council, US Environmental Protection Agency, HACD, UH College of Tropical Agriculture and Human Resources, State Agriculture Department, Coastal Zone Management Program and Garden Island Resource Conservation and Development (GIRC&D).

Learn more:

<https://www.nrcs.usda.gov/wps/portal/nrcs/main/pia/people/partners/>

<http://dlnr.hawaii.gov/swcd/>



Directors & Field Staff

Kaua'i Soil & Water Conservation Districts
& NRCS Staff

West Kaua'i Soil & Water Conservation District

Pictured (backrow, left to right): Blaise Boyle (Director), Rebekah Magers (District Assistant), Peter Tausend (Chairman), John Nelson (Conservation Specialist), Howard Greene (Director), Jenni Scotti (Conservation Specialist), Adam Killermann (Director), Greg Williams (Associate Director); (front row): Jenna Dunn (NRCS District Conservationist), David Smith (Director)

Not pictured: Associate Directors—Bruce Robinson, Robin Young, Gary Ueunten, Roy Oyama, Keith Smith



East Kaua'i Soil & Water Conservation District

Pictured (backrow, left to right): John Nelson, Ed Kawamura Jr., (Chairman) Darren Tamekazu (Associate Director), Jenni Scotti, Leonard Vierra (Director); (front row): Arryl Kaneshiro (Director), Rebekah Magers, Jerry Ornellas (Associate Director), Eric Hansen (Director)

Not pictured: Director— Michael Fernandes; Associate Directors— Gerald Takamura, Thomas Oi

Cooperator of the Year 2017

East Kaua'i SWCD

Dylan Strong

Growing Strong Farm
By Jenni Scotti

Agriculture and conservation go hand in hand, and integration of improved technologies and practices is a constant need to ensure the highest efficiency on a farm. Both conservation practice implementation and constantly working towards protection and best use of natural resources are the norm for Dylan Strong on his Growing Strong Farm.

The East Kaua'i Soil and Water Conservation District is pleased to recognize Dylan for his ongoing efforts to improve his farm.

Dylan's farm produces a variety of crops, including tomatoes, peppers, cucumbers, beets, carrots, kale and chard. This diversity of products creates a challenge to ensure that irrigation is utilized efficiently, as each crop has different water needs. In recent years, he has implemented mulching and compost to assist with moisture management, which improves irrigation water use. He continuously manages his water use to minimize wasting water. Additionally, he implements crop rotations, which help to break pest cycles as well as improve soil quality. Dylan has recently installed an energy efficient air-conditioned cooler. This extends the life of their harvested materials and allows flexibility in timing for harvests and sales.

There is constant determination of what types of technology and practices will be best in improving the efficiency of the farm by reducing the need for resources and improving soil quality through conservation practices. Planned upcoming projects include installation of high tunnels and further improvement of the irrigation system. These will improve the efficiency of water use for the overall farm, especially with the diversity of crops. Additionally, a water catchment system will be installed with the high tunnels, further improving water availability. This unchlorinated water is preferable to chlorinated well water because it reduces conflicts with soil amendments that are utilized. Finally, future energy improvements include a solar powered system for the overall operations.

Dylan will continuously research, understand and improve his operations and his impact on natural resources, especially with regards to soil and water. This incorporation of new information and technologies along with constant work in conservation practices is why East Kaua'i Soil and Water Conservation District would like to congratulate Dylan as its Cooperator of the Year.



Agriculture on the island can be a challenging balance between maximizing production and protecting natural resources. Ed Sindt established Red Dirt Farm in Kalaheo in 2004 and has been managing and building the farm for the past 14 years.

Eddie Sindt

Red Dirt Farm
By Jenni Scotti

The farm operates today as Kua Mo'ō Farm and focuses on mixed greens, vegetables, hearts of palm, an assortment of herbs, micro-greens and tropical fruit. Using both aquaponics for greens and traditional gardening for the balance of produce, the need for resource management is critical. Ed accomplishes management of soil and water through several conservation practices. His tireless work is recognized by West Kaua'i Soil and Water Conservation District, which has selected Ed Sindt as its Cooperator of the Year.



The farm is located on the western slopes of Kukuiohono. Its valleys and slopes require proper planting practices in order to decrease potential erosion. The location is in a rain shadow, so use of irrigation water and



Above: Ed Sindt with Peter Tausend

managing for water distribution and volume are critical. Managing water is a constant job. With the assistance of the NRCS, a complete irrigation system for the property was designed and installed using drip, t-tape and micro-sprinklers. The result was successful in reducing water usage by approximately 40%. Additionally, Ed has implemented the use of mulch to conserve soil moisture, which reduces the need for irrigation water. This ensures that his irrigation system uses less water and runs more efficiently. Ed also continues to install micro-irrigation as needed throughout the farm, minimizing water waste by applying water at ground level to the plant's root zone.

Soil erosion is a concern on this site due to steep slopes. To decrease soil erosion, Ed has installed terraces. He also plants his trees and crops on the contours of the slopes. Additionally, he has planted vetiver to reduce erosion on steeper slopes. The application of mulch also improves soil quality, which increases water infiltration into the soil. This reduces the amount of water movement on the soil surface, which reduces potential erosion. All of these practices reduce

soil erosion and prevent soil movement down slope.

Ed has plans to expand his operations, including clearing an acre of invasive trees for use in crop production. With his future endeavors and constant work towards new projects, he will continue conservation stewardship on his farm. For all of his accomplishments, West Kaua'i Soil and Water

Water Conservationist of the Year 2017

East Kaua'i SWCD

Bradley Smith & Amy Arnett-Smith

Viva Rain Farms
By Jenni Scotti

Water is integral to the function of agriculture, and farmers understand that it is important to implement practices which best utilize this important resource. Bradley Smith and Amy Arnett-Smith of Viva Rain Farms have worked to improve the overall management of their operations to ensure the efficiency of their irrigation and water use.

Viva Rain Farms is a small family run farm which started in Kilauea 13 years ago, stemming from Brad's work starting 15 years ago in Moloa'a. They now currently have a total of three farms in Moloa'a and Kilauea, totaling almost 25 acres. 18 acres are in Kilauea, six are in Moloa'a, and they have half of an acre in the Kilauea Ag Park. The Kilauea Ag Park parcel and one acre in Moloa'a focus on mixed vegetables. Remaining areas have diversified tropical fruit trees, including rambutan, longan, avocado, mangosteen and other mixed trees.

There are many practices to achieve efficient water use. Practices that Brad and Amy have used include keeping the orchard ground covered and use of mulch and windbreaks. They have been renovating their windbreaks so that they can better function both as a screen for air movement, as well as provide better shade for moisture management. Since they have applied mulch around their trees, they have cut their water use by 40%, improving the efficiency of their overall water system. They base their water needs on information from a rain gauge to help ensure they only use water as needed, reducing overall waste.

For their sound water conservation practices, the East Kaua'i Soil and Water Conservation District would like to congratulate Bradley Smith and Amy Arnett-Smith of Viva Rain Farms as their 2017 Outstanding Water Conservationist of the Year.



Above: (front row, left to right) Ed Kawamura Jr., Bradley Smith, Sakda Meephol, Usa Meephol; (second row) Peter Tausend, Jenna Dunn, (third row) Kirk Saiki, Clyde Nakaya, Arryl Kaneshiro, (last row) Genoa Starrs, Laurie Ho, Jenni Scotti, Leonard Vierra

Mr. Sakda Meephol is a diversified row crop and orchard farmer with several years of experience. He operates several farms across the island producing a variety of crops including mango, banana, watermelon, longan, pineapple, and several other crops.

Sakda Meephol

By Jenna Dunn

Mr. Meephol is taking several measures to conserve water on the land he farms including installing an improved drip irrigation system, irrigation water management, and cover crop. A couple of years ago, in his bananas, he noticed that his drip irrigation lines kept bursting due to pressure and pig issues. Mr. Meephol worked closely with the NRCS and SWCD office to design and install a more resilient and efficient drip irrigation system resulting in better water application uniformity, significant water conservation, and greater peace of mind for Mr. Meephol.

In addition to installing a more efficient system, he is also currently practicing enhanced irrigation scheduling, or irrigation water management. This involves determining and controlling the volume, frequency, and application rate of irrigation water in a planned manner based on soil water holding capacity, crop needs, weather, and irrigation system output. Irrigation water management encourages the application of water in an amount that meets the need of the crop in a manner that avoids extended soil saturation and runoff. By increasing application precision and reducing unneeded applications, water can be conserved and energy can be saved.

Mr. Meephol is also utilizing forage radish, which is similar to daikon, as cover crop to increase soil organic matter, thereby increasing the water holding capacity of the soil. Another benefit of this type of cover crop is that it helps to break up the hard pan (impermeable layer) within the soil, thereby increasing the water infiltration rate and contributing to groundwater recharge. Mr. Meephol is committed to agriculture and conservation on his property, he even has plans to improve irrigation systems on other fields he farms.

West Kaua'i SWCD appreciates Mr. Meephol's efforts to use water wisely, and congratulates him for being its 2017 Outstanding Water Conservationist.



Above: Forage radish being established to improve soil condition and water infiltration

Watersheds: Our Water, Our Home

East & West Kaua'i SWCD

Watersheds: Our Water, Our Home

By Jenni Scotti

Water is an important part of our livelihood. We need it to drink and to grow food. We use water for cleaning, swimming and watering our gardens. Watersheds are a key part of our everyday lives. We all live in and rely upon watersheds and everything we do impacts their resources. If we pollute water sources, we also pollute the water we need to survive. Since watersheds are where our water comes from, they are critical parts of our environment.

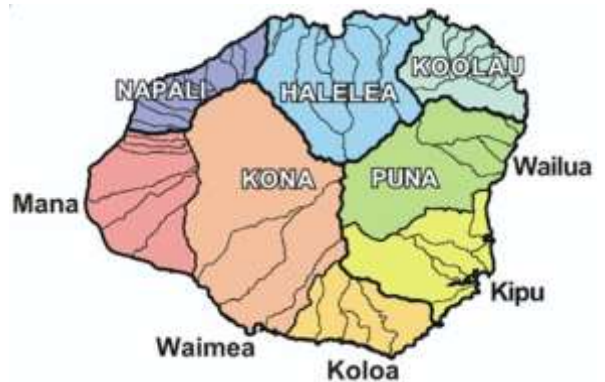


What is a watershed?

Watersheds are areas in which all water drains into a common body of water. In Hawaii, that is the ocean. Waters in our watershed come from rainfall and stormwater runoff and can be in streams, ponds, lakes, reservoirs, ditches and ground water. Watersheds are important for many different reasons. Clean and available water (wai) is key for our everyday survival, from being able to drink it, to watering our crops. Wildlife, forests, and trees also rely up on healthy watersheds for survival. It is also important to ensure that our ocean waters are clean to keep our reefs and fish healthy. What we do upstream can have impacts downstream, from the mountains all the way to the ocean. If we take away water from higher up in the watershed, then less will be available below. If we pollute the water above, then those below will not have clean water. Everything upstream affects everything downstream.

Ahupua`a

The ahupua`a system is a land and resource management system which encompasses agricultural, aquacultural, social and cultural activities. Historically, it ensured that Hawaiians had access to resources from the mountain to the ocean. It was important that these resources be properly managed, otherwise, they would not have enough for survival. The physical ahupua`a are land sections which encompass the mountain summits down through the valleys to the shallow coastal waters all the way to the end of the reefs in the ocean. Each ahupua`a, is in general, a watershed. Thus, it is important that for each ahupua`a we live in to protect its resources and water.



The five Moku Districts of Kauai. Kona encompasses Mana, Waimea and Koloa. Puna includes Wailua and Kipu. Source: Island Breath

Challenges for watersheds

Water quality is an important challenge of the many challenges facing watersheds. Activities such as over using fertilizers and pesticides, bare soils or excessive tillage of land can increase the amount of contaminants in both surface and ground waters. When too much sediment and other contaminants such as sewage get into the waterways, this can choke out water species all the way down to the ocean. Poor water quality will affect our reefs, aquatic wildlife habitat, and even our own drinking water. Another challenge is the disappearance of wetlands. Wetlands are an important part of the watershed, in that they improve water quality through a natural filtration process.

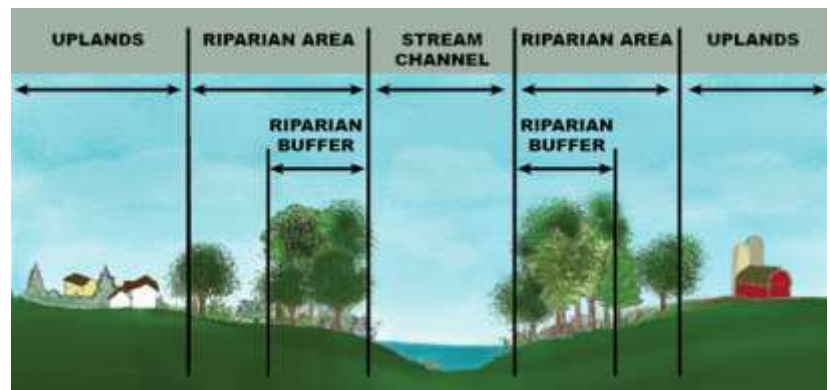
Finally, we need to ensure there is enough water throughout the watershed. If we take too much, then there is less for the streams that contribute to our ground water and eventually flow into the ocean. This will reduce aquatic habitat as well as freshwater available for our use.

What can we do?

We all live in a watershed, and it is important that we protect our water and our home. For agriculture, having field buffers or riparian buffers help capture contaminants, such as sediment, and reduce their impacts on water resources. When using inputs, we can make sure that we utilize only what we need through nutrient management and pest management. The goal is to reduce excess inputs, such as fertilizers, from getting into the water systems. It is important to ensure that our wetlands are healthy, as they provide critical water filtration to improve water quality. We need to minimize bare ground, especially during the rainy season, by planting either temporary crops (such as cover crops), or permanent vegetation (such as grasses and trees). This is also important in our own backyards. We always need to conserve water, so having efficient irrigation systems is key for water utilization on farms as well as our landscaping. Conserving water use in our homes can be achieved by activities such as fixing leaky faucets and not taking extra-long showers. There are many things we can do to protect watersheds, our water and our home!



Koa – Acacia koa can be planted as a native tree for watersheds



Source EPA

For more information, to get involved or learn more about projects on Kaua'i visit the Kaua'i Watershed Alliance

<http://hawp.org/partnerships/kauai-watershed/>.

For water quality and volunteer opportunities for beach clean-ups visit Surfrider Foundation Kaua'i <https://kauai.surfrider.org/>.

To learn more about Kaua'i ahupua'a and moku districts <http://kauainuikuapapa.com/>.

To learn more about what you can do at your homes visit Kauai Department of Water

http://www.kauaiwater.org/ce_waterconservation.asp

Community Outreach

East & West Kaua'i SWCD

2017—2018 Activities

- **EWKSWCDs' ANNUAL REPORT:** Through the annual report, our conservation partners and the public are informed of our accomplishments and activities during the year.
- **OUTSTANDING COOPERATORS OF THE YEAR:** Annually, we honor Kaua'i ranchers, farmers and organizations who make outstanding efforts to conserve and protect our natural resources.
- **OUTSTANDING WATER CONSERVATIONISTS OF THE YEAR:** Each year, we recognize and honor Kaua'i farmers or ranchers who make outstanding efforts to conserve and protect water in operating their farms or ranches.



Above: John Nelson, Jenna Dunn, Genoa Starrs and Rebekah Magers at the 2018 Garden Fair.

- **CONSERVATION AWARENESS CONTEST:** We sponsor this annual land judging contest among Kaua'i high school students. With assistance from the UH Cooperative Extension Service, the USDA Natural Resources Conservation Service, and cooperation of the State Department of Education, the students learn the importance of natural resource conservation and protection in agricultural production. The winning team competes in the State contest and the State's top team represents Hawai'i at the national competition.
- **KAUA'I COUNTY FARM BUREAU GARDEN FAIR AND FARM FAIR:** We participate in these two events, in April and August, to publicize our activities and role in natural resource conservation.

- **AG AND ENVIRONMENTAL AWARENESS DAY:** Annual event in May at the UH CTAHR Extension and Agricultural Center in Wailua. Fifth grade students from across Kaua'i enjoy a day of agricultural and environmental related activities and lectures.
- **COUNTY DEPARTMENT OF WATER ANNUAL "MAKE A SPLASH WATER FESTIVAL":** We participate in this event to help the County Department of Water promote awareness, appreciation, knowledge and stewardship of water resources to Kaua'i's fifth graders.



Above: Jenni Scotti at Ag and Environmental Awareness Day in Wailua

- **POSTER CONTEST:** The National Association of Conservation Districts' Poster Contest for Kaua'i's K – 6th Grade students is a national contest to encourage teachers and students to be good stewards of the land by conserving and protecting our natural resources. Posters are drawn by the grade school students to express their thoughts on natural resource conservation and protection. First place posters are sent to the national competition.

The local contest has three age groups: K-1st, 2nd-3rd and 4th-6th. The top three winners of each category receive a prize and the first place in each group is sent to the national contest in Washington DC.

Kaua'i Conservation Poster Contest

This year's theme:



1st Place: Karl Abella Grade 6
Kapa'a Middle / Ms. Tittnich



2nd Place: Alana Jones Grade 2
Kauaikapono PCS / Mrs. Barker



2nd Place: Cameron Haeger Grade 6
Kapa'a Middle / Ms. Tittnich



1st Place: Aleiya Acosta-Batis Grade 3
Ele'ele Elementary / Mrs. Carl



3rd Place: Asher Morales Grade 6
Kaua'i Christian Academy / Mrs. Morales



3rd Place: Isla Amador Grade 1
Kilauea Elementary / Ms. Cornell



1st Place: Audrey Jones Grade 1
Kilauea Elementary / Ms. Cornell



2nd Place: Na'e Vaughan Grade 1
Kilauea Elementary / Ms. Cornell

Next year's theme:

WATERSHEDS
OUR WATER, OUR HOME



3rd Place: Noe Reyes Grade 3
Ele'ele Elementary / Mrs. Newton

Mahalo to Kukui Grove and their staff for providing space to display the posters!

Community Outreach

East & West Kaua'i SWCD

Mahalo to the teachers and students from, Ele'ele Elementary, Kaua'i Christian Academy, Kanuikapono PCS, Kalaheo Elementary, Kilauea Elementary and Kapa'a Middle School for participating in the 2017 Conservation Poster Contest sponsored by the East and West Kaua'i SWCDs and the National Association of Conservation Districts.

Pictured: Top— Ele'ele Middle School; Middle left— Kapa'a Middle; Middle right— Kanuikapono Charter School; Bottom left— Kilauea Elementary; Bottom right— Kaua'i Christian Academy



The Kaua'i Department of Water (DOW) hosted its 14th Annual Make a Splash with Project WET (Water Education for Teachers) Festival on September 28, 2017.

DOW's Make a Splash Festival

By Jonell Kaohelaulii
DOW, County of Kaua'i

This dynamic hands-on water education event is a collaboration of community members, government resource agencies, students, teachers, parents and enthusiasts of all kinds for one cause – to educate and raise awareness about water, our most precious natural resource.

Over 780 fifth-grade students from around the island gathered at the Pua Loke Arboretum in Lihue to learn about the critical role water plays in our everyday lives.

Students participated in interactive hands-on activities and educational exhibits, while discovering how a healthy watershed can affect agriculture, recreation and wildlife habitats. Students also learned how they could contribute to wise water-use and source water protection.

Make a Splash features activities from Project WET, an award-winning curriculum of water education activities, in addition to water-related presentations from DOW's community partners. In 2017, DOW featured 9 Project WET activities and 2 activities from the community. Kaua'i is



Above: Students carefully monitor the water as it rises to the top of the cup at the H2O Olympics games activity tent, sponsored by Hawaii Rural Water Association at the Make a Splash festival.



Above: King Kaumualii Elementary students work together to transport their single water source through an obstacle course.

currently the only island in our state that organizes this water education festival.

The East and West Kaua'i Soil and Water Conservation Districts continue to support this event by volunteering as activity leaders and volunteers at the various water activity stations. Without participation from the East and West Kaua'i Soil and Water Conservation Districts, and other community businesses and organizations, the DOW would not be able to successfully host the Make a Splash with Project WET Festival year after year.

The Project WET Foundation is an established not-for-profit organization that is dedicated to worldwide water education. Their mission is achieved through various resource materials, training workshops, community events and an ongoing increase of network educators and professionals.

Project WET

Department of Water + East & West Kaua'i SWCD

The DOW is Project WET's Host Institution for the state of Hawaii. To learn more about Project WET, visit www.projectwet.org. The DOW's 15th Annual Make a Splash with Project WET Festival will be held on September 20, 2018.

For more information or to sign up as a volunteer, please call DOW's Information & Education Specialist, Jonell Kaohelaulii at (808) 245-5461 or email jkaohelaulii@Kaua'i water.org.

Right: Kaua'i Board of Water Supply member, Michael Dahilig (far right) shows students the beads that will represent clouds in their journey through the water cycle.



Keeping Our Watershed Native

By Katie Cassel
Program Coordinator for KRCP

Since 2007 the Kokee Resource Conservation Program (KRCP) has been contracted by The Nature Conservancy (TNC) to remove invasive weeds in priority watershed areas. Protecting these areas is key to safeguarding the drinking water for the island of Kaua'i .

TNC is the coordinator of the Kaua'i Watershed Alliance (KWA). The KWA is made up of large public and private landowners who own land in the mauka watershed areas of the island. These landowners, along with the Kaua'i County Department of Water, came together in 2003 with the mission of protecting the drinking water for all people on Kaua'i .

The native Hawaiian forest of Kaua'i functions as an excellent watershed. The many-layered understory rich in ferns and mosses, the diverse shrub layer, and ōhi'a lehua canopy all work together to capture the fog and rain, yield it to the aquifer, preventing erosion. This amazing forest is also one of the most diverse and botanically rich forests in the world, with 30% more endangered species than any other state in the US, including several species of forest birds found only on Kaua'i .

The natural resources of Hawaii contain magnificent ecosystems that are unique in the world, and need protection immediately. KRCP is addressing these concerns with work on the ground to preserve these upland forests and cultural plants, and involve the community in natural resource conservation.

One of the greatest threats to this dynamic diversity is the invasive weed species that are disrupting and displacing these ecosystems. KRCP works with volunteers to remove these weeds through



Above: Alien species such as strawberry guava don't follow Hawaiian protocol of giving space to others and thus are a major threat to native Hawaiian forests. Nothing else can grow in these guava thickets.

Kokee Resource Conservation Program

Garden Island Resource Conservation & Development + East & West Kaua'i SWCD

hands-on service learning projects. KRCP is sponsored by the nonprofit Garden Island Resource Conservation & Development, Inc., in collaboration with the Hawai'i Department of Land & Natural Resources (DLNR). Since 1998 KRCP has leveraged funding with the help of 31,121 volunteers putting in 167,925 hours, removing over 12 million weeds from 11,785 acres (includes repeat volunteers and repeat acres). To support this monumental work, KRCP has successfully partnered with and received funding from a diversity of sources, including Serendipity, The Nature Conservancy (TNC), Hawaii Department of Land & Natural Resources (DLNR), Hawaii Community Foundation, Patagonia, Malie, Poipu Rotary, Regional Conservation Partnership Program (RCPP) through the Natural Resources Conservation Service (NRCS), US Fish & Wildlife Service, Hawaii Tourism Authority, Kaua'i Invasive Species Committee, Cloudwater Tea Farm, Fernando Penalosa, Ellen and Clarence Peterson Foundation, and other private donations.

Involving volunteers in direct conservation action to protect our native watershed fulfills several goals:

- Connects youth with nature and the outdoors, giving the love of nature to the next generation
- Leverages funding
- Accomplishes a larger job on an ecosystem scale
- Heightens the public's awareness of the need to preserve our unique natural resources and cherished cultural heritage.



Above: Volunteer at Blue Hole, below Waialeale.

The KRCP internship program provides science education that leads to local career development and job opportunities; more than a dozen former KRCP interns now work for Hawaii DLNR and other conservation agencies.

TNC wrote and updated the Kaua'i Watershed Management Plan in 2005 and 2012 and implemented several of the management strategies. This broad reaching plan combines the resources of public agencies and private landowners towards the preservation of these native wilderness regions. The KWA Plan developed an excellent strategy for the difficult terrain, mainly to prevent problematic, habitat-modifying weeds from invading the most ecologically intact forests. The plan included aerial surveys which provided important foundational data and helped initiate TNC's implementation of the Plan, which has proven to be successful for weed control during the 12 years that KRCP has been contracted to implement the invasive weed control objectives.

Prioritization of work areas has been boosted by TNC's work with Resource Mapping Hawaii for high-resolution aerial imagery that provides valuable data on invasive species to guide weeding transects.

NRCS Report

USDA - NRCS + East & West Kaua'i SWCD

Similarly, other advances in remote sensing such as university and State-funded high-resolution LiDAR data have helped provide detailed terrain models for some of the most remote areas on the island, including the Alakai Plateau.

Over time, the adoption of innovations in technology from imagery to satellite-connected cell phones has made KRCP's work more efficient and safer. Even still, it is the capacity and consistency of KRCP's volunteers and partnerships that has protected thousands of acres of native-forested watershed for over a decade. It is certainly due in large part to the adventurous and dedicated people on the ground in the wet, rugged mountains of Kaua'i, that our precious watershed forest is still so native.

Help protect your native forest; volunteer or donate today!

Sponsored by the Garden Island Resource Conservation & Development, Inc. | PO Box 1108 Waimea, HI 96796

Phone: (808) 335-0045 | Email: kokeeresource@gmail.com | Website: krpc.org | Monday-Thursday 7:00am-5:00pm

NRCS Report

During the 2017 fiscal year NRCS Kaua'i provided federal dollars to agricultural producers to help implement a variety of conservation practices on crop, forest, and grazing land throughout the island. Eighteen new Environmental Quality Incentives Program (EQIP), and Agricultural Management Assistance Program (AMA) contracts were obligated to Kaua'i farmers, ranchers, and forestland operators, totaling \$959,842.00 and covering 806.5 acres.

The table below summarizes practices installed on Kaua'i with the aid of prior year EQIP and AMA contracts, as well as those practices applied with the aid of Conservation Technical Assistance (CTA) and the applied amounts.

Practice Name	Practice unit	Applied
Access Control	ac	1
Brush Management	ac	85
Cover Crop	ac	6
Deep Tillage	ac	12
Fence	ft	2,804
Forest Stand Improvement	ac	3
Hedgerow Planting	ft	350
Irrigation Pipeline	ft	400
Irrigation System, Microirrigation	ac	13
Irrigation Water Management	ac	8
Land Clearing	ac	35
Mulching	ac	6
Seasonal High Tunnel System for Crops	sq ft	1,089
Tree/Shrub Pruning	ac	3
Tree/Shrub Site Preparation	ac	17
Vegetative Barrier	ft	160
Windbreak/Shelterbelt Renovation	ft	1,168
Woody Residue Treatment	ac	91

Conservation Practices	Practice Unit	Applied
Cover Crop	ac	185
Land Clearing	ac	8
Prescribed Grazing	ac	1,765
Tree/Shrub Site Preparation	ac	8
Vegetative Barrier	ft	705
Woody Residue Treatment	ac	8



USDA is an equal opportunity provider and employer.

www.pia.nrcs.usda.gov

Conservation Awareness Contest

By Genoa Starrs

While commodities such as livestock and produce tend to capture the interest and appetite of the general public, any good farmer can tell you land itself is an often-underrated asset. Land judging was introduced in 1943 to increase students' awareness of soil science and management—key aspects of successful agricultural operations.

Today, land judging has evolved into the Conservation Awareness (CAP) contest, and has grown into a nation-wide contest with participation from thirty-eight states. Though the name has changed in



Hawaii, the contest stays true to its roots in soil science. Students examine soil, landscape and climate conditions to determine land capability class. These indicate the best possible land use for different locations. Students must understand how geographic features and soil conditions will interact with agricultural and construction operations to influence the potential productivity of a site.



The 2017 Kaua'i County CAP contest was held in Maha'ulepu, where the four participating Kaua'i High School students judged three varying sites. They persisted through extremely wet and muddy conditions to complete the contest and enjoy a celebratory lunch. Jenni Scotti (East and West Kaua'i Soil and Water Conservation Districts), Genoa Starrs (Hawai'i Association of Conservation Districts), and Emilie Kirk (Junior Extension Agent, CTAHR) helmed the contest, assisted by East Kaua'i SWCD Director Leonard Vierra and NRCS District Conservationist Jenna Dunn. The site locations were generously made available to use by Grove Farm and the Makauwahi Cave Preserve.



Mahalo nui loa to all participants, organizers, and landowners for making this event a success! Our special thanks goes out to the East and West Kaua'i SWCDs,

Arryl Kaneshiro and Grove Farm, Dr. David Burney, Lida Burney, Billie Dawson and Makauwahi Cave volunteers and staff, Amy Koch (NRCS), Emilie Kirk (CTAHR) and the Hawaii Association of Conservation Districts. Thank you also to Monsanto for their support in helping the students attend the State contest on Maui.



Front row: Keenan Iwai, Craig Duff, Emilie Kirk, Genoa Starrs. Back Row: Kyra Bukoski, Samuel Gauna, Jenni Scotti, Leonard Vierra, Jordan Karimi.



Right: Emilie Kirk and Leonard Vierra

HACD Conservation Specialist

Hawai'i Association of Conservation Districts + East & West Kaua'i SWCD

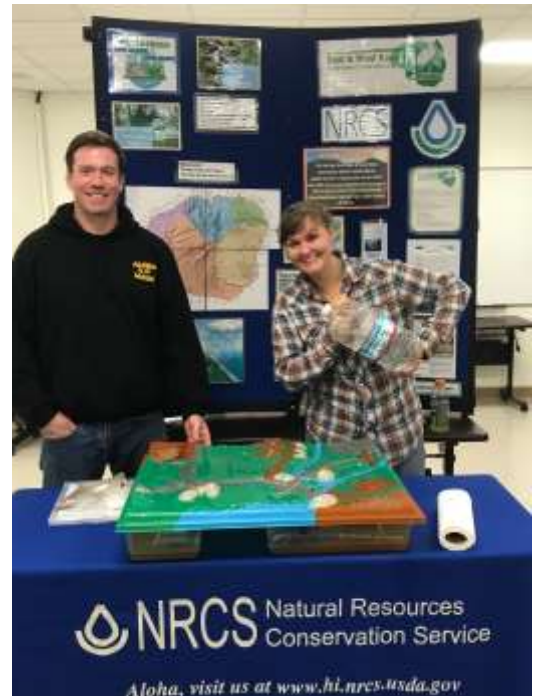
HACD Conservation Specialist Report

By John "JW" Nelson

I'm very grateful to be joining the Lihue Field Office Team as the Conservation Specialist for the Hawai'i Association of Conservation Districts. Having just started in March, I am looking forward to broadening my horizons and helping conserve this beautiful island of Kaua'i . It was extremely nice to be welcomed and join the well-established, hardworking staff; each of whom have obvious heartfelt ambitions in conservation. It has been an enlivening first four weeks meeting the East and West Kaua'i SWCDs' directors, going on field visits and meeting clients throughout the island.

Prior to starting this position here on Kaua'i , I was working in forestry conservation and heading water toxicology studies with Native American tribes in Northern California. I believe by working in many different aspects of environmental conservation, one can better succeed in the preservation of diverse natural resources. Having the opportunity to work on Kaua'i gives me the chance to gain further knowledge in the much-needed realm of land management and stewardship.

I have lofty aspirations in helping the people and land of Kaua'i . Being involved in outreach and bettering the public's knowledge of conservation is something that is dear to my heart. Working with the land and understanding the complex ecosystems that Kaua'i possesses is something that I strive for. Kaua'i is an enchanting and unique place on this earth which deserves to be preserved and protected.



Above: John Nelson and Genoa Starrs at KCC's Earth Day Fair



Left: Conservation Poster Contest winners at Ele'ele School



Right: Cultural Resources Training on O'ahu

Staff Update

By Peter Tausend



Above: Jenna Dunn, Genoa Starrs, Rebekah Magers, Jenni Scotti, and John Nelson

We've had several staff changes since last year's report. Marj Stanphill, our District Assistant for over 18 years, retired in December. We thank Marj for all she did for us and wish her the best in her well deserved retirement! We welcomed Rebekah Magers as our new District Assistant in April. She is also our NRCS Program Support Specialist, a new position funded through the NRCS. Rebekah has previous conservation experience and is pursuing a degree in environmental science.

HACD Conservation Specialist Genoa Starrs took a position as NRCS Soil Conservationist in November. Fortunately, she is located in the Lihue Field Office, so

we continue to benefit from her planning expertise

and enjoy her company. Her replacement is John Nelson. John began working with us in April after relocating from Northern California. He has a background in botany and oceanography and has been working with conservation issues in California and Hawaii. He also has family ties to Kaua'i. Welcome aboard John! Conservation Specialist Jenni Scotti has now been with us for five years. We very much appreciate her planning talents and outreach efforts.

Finally, we thank NRCS District Conservationist Jenna Dunn for providing daily guidance to our staff that enables a positive and productive partnership.

Mahalo!

We wish to thank the staff and volunteer board members of East and West Kaua'i Soil and Water Conservation Districts for their commitment and dedication to preserve and protect our precious natural resources. Mahalo to our conservation partners, who include the USDA Natural Resources Conservation Service, Governor David Ige, State Departments of Health, Agriculture and Land and Natural Resources, UH CTahr Extension Service, Mayor Bernard Carvalho Jr., Kaua'i County Water Department, Kaua'i County Council, the Hawai'i State Legislature and Hawai'i Association of Conservation Districts. We also appreciate the support of the Department of Health and the National Tropical Botanical Garden in providing space for our monthly meetings.

Lastly, we express our deep appreciation to the board members and staff of East and West Kaua'i Soil and Water Conservation Districts, Kaua'i staff of USDA Natural Resources Conservation Service, Garden Island Resource Conservation and Development, Water Department, County of Kaua'i and UH CTahr Cooperative Extension Service for helping to make the annual report possible.

Event Volunteers & Photos

East & West Kaua'i SWCD



Clockwise: Project WET Festival 2017; Jeremy Campbell at Forestry training on Kaua'i; Ed Kawamura Jr. at Annual HACD Conference on Mau'i; Emilie keeping Jenni Scotti dry during CAP Contest 2017.



Event Volunteers & Photos

East & West Kaua'i SWCD



Clockwise: Genoa Starrs presenting at the Annual HACD Conference on Mau'i; Leonard Vierra and Jenni Scotti with Kanuikapono Conservation Poster Contest winner; John Nelson, David Smith, Genoa Starrs and Jenni Scotti at 2018 Garden Fair .

